HARVARD MEDICAL SCHOOL HONORS

HMS Foundation Funds Award Recipients

April 29, 2013

THE HMS FOUNDATION FUNDS
2013 AWARDS RECEPTION

Opening Remarks

Nancy J. Tarbell, M.D.
Dean for Academic and Clinical Affairs

Jeffrey S. Flier, M.D.
Dean of the Faculty of Medicine

Lunch

Impact on Career Trajectory

Elazer Edelman, M.D., Ph.D.
Chair, HMS Foundation Funds Committee

Questions for Award Recipients

What do you wish you had known prior to applying? What advice would you give to future applicants?
How can we improve the process for HMS nominees?

The HMS Foundation Funds would like to thank all of the selection committee members who have devoted time and effort to reviewing proposals, providing feedback to applicants, and advising nominees. The contributions of our committee members have been invaluable to the program and to our applicants and nominees.

AWARD RECIPIENTS

Adam Joel Bass, M.D.

2012 Doris Duke Clinical Scientist Development Award

Targeting SOX2-Driven Squamous Cell Carcinoma

Dr. Adam Bass is an assistant professor of medicine at the Harvard Medical School and Dana-Farber Cancer Institute and also is an associate member of the Broad Institute. He completed clinical training in internal medicine at the Massachusetts General Hospital and medical oncology training at the Dana-Farber Cancer Institute. He subsequently pursued research training in cancer genomics and cancer biology at both the Dana-Farber Cancer Institute and Broad Institute. During that time he developed a research interest in studying the somatic-genomic alterations in gastrointestinal cancer using new emerging genomic technologies and also studying candidate genomic alterations in the laboratory using more traditional functional biology. Since 2010, Dr. Bass has been an independent investigator at the Dana-Farber Cancer Institute, where his laboratory continues to pursue the understanding of the genomic alterations in gastrointestinal cancers, with a special interest in esophageal and gastric cancers. In addition, Dr. Bass is co-chairing The Cancer Genome Atlas (TCGA) studies into gastric and esophageal cancer. Beyond genomic characterization, his laboratory continues to work to understand select oncogenes and tumor suppressors in these tumors and build off the elucidation of genomic alterations to identify new therapeutic vulnerabilities for patients with these diseases.

Elisabeth M. Battinelli, M.D., Ph.D.

2012 Grunebaum Cancer Research Fellowship

The impact of anticoagulants on platelet-mediated breast cancer angiogenesis and metastasis

Dr. Elisabeth Battinelli received her M.D./Ph.D. degree from Boston University School of Medicine. She then completed an Internal Medicine Residency at Boston Medical Center and remained for an additional year as Chief Medical Resident. Dr. Battinelli then completed a Hematology/Oncology Fellowship at Beth Israel Deaconess Medical Center. Currently she is an Attending Physician in the Division of Hematology at Brigham and Women's Hospital. She specializes in disorders of hemostasis and thrombosis. Her research interests focus on the role platelets play in physiological and pathological angiogenesis.

She is specifically interested in understanding the interaction between platelets and breast cancer cells and how this influences tumor growth and metastasis.

Ryan Bruce Corcoran, M.D.

2012 Damon Runyon Clinical Investigator Award

Defining novel targeted therapy combination strategies for BRAF V600 mutant colorectal cancer

Mutations in the BRAF gene occur in 10-15% of colorectal cancers and predict poor outcome. Drugs that block the action of mutant BRAF are under active clinical development, and one drug that blocks BRAF was recently approved by the Food and Drug Administration (FDA) for treatment of metastatic melanoma. However, these BRAF inhibitor drugs alone have not been effective in BRAF mutant colorectal cancer patients, suggesting that improved approaches are needed. Dr. Corcoran's goal is to develop new treatment strategies for BRAF mutant colorectal cancer. Through a combination of laboratory studies and clinical trials, he plans to identify other key survival signals in BRAF mutant colorectal cancers that can be targeted, in combination with BRAF inhibitors, to improve treatment response in BRAF mutant colorectal cancer patients. Ultimately, he aims to develop novel effective treatments for patients with this lethal subtype of colorectal cancer. http://www.damonrunyon.org/current_projects/more/ryan_b._corcoran_md_phd

Benjamin Elison Gewurz, M.D., Ph.D.

2012 Burroughs Wellcome Career Award for Medical Scientists

Identification of novel NFkB pathway components important for lymphomagenesis

Dr. Gewurz had a long-standing interest in the host-pathogen relationship, and in using pathogens as tools to study immunobiology. As an HMS MD-PhD student in Hidde Ploegh and Don Wiley's laboratories, he used biochemical and structural biology approaches to gain insights into human cytomegalovirus evasion of MHC class I antigen presentation. After training in internal medicine (BIDMC) and in infectious disease (BWH/MGH), Dr. Gewurz's post-doctoral research with Elliott Kieff focused on the Epstein-Barr virus oncoprotein LMP1, which is expressed in most EBV-associated human malignancies, including lymphoproliferative disorders of immune-suppressed hosts, EBV+ Hodgkin lymphoma, and nasopharyngeal carcinoma. Through a genome-wide siRNA screen, they identified many novel cell proteins important for LMP1, TNFα–

and IL-1β-mediated NF-κB pathway activation. Dr. Gewurz is currently an assistant professor in the BWH infectious disease division, where his research interests include: 1) Identification of novel B-cell NF-κB pathway components and potential druggable targets downstream of LMP1 and its B-cell functional homologue, CD40; 2) Defining the genome-wide landscape of all five NF-κB transcription factors by ChIP-Seq analysis of EBV-transformed B-cells; 3) Identification of host and viral gene expression patterns and epigenetic states in EBV-associated tumors; 4) Identification of potent small molecule NF-κB inhibitors and synthetic lethal targets for the treatment of EBV-associated malignancies.

Jonathan C. Kagan, Ph.D.

2012 Burroughs Wellcome Investigator in the Pathogenesis of Infectious Disease

Novel approaches to study RIG-I like receptor mediated antiviral immunity

Dr. Kagan studies Pattern Recognition Receptor signaling pathways as a means of understating the earliest events that initiate immunity to infection. His work initiated with studies of the Toll-like Receptor (TLR) and RIG-I like Receptor (RLR) signaling networks, which operate in mammalian cells to detect microorganisms that enter our bodies. The organizing principles that govern TLR and RLR signaling are entirely unknown and their elucidation will likely reveal answers to several fundamental questions that apply to the study of vaccine design. His research has focused primarily on defining the subcellular sites of TLR and RLR signal transduction. They provided the first *in vivo* evidence that the localization of adaptor proteins is important for controlling microbial infections. They have defined a new signal transduction pathway activated when mammalian cells are exposed to bacterial endotoxin. Finally, they have defined a new subcellular site of antiviral signal transduction induced by the RLR family. In addition to the previously described mitochondria, RLR signaling also occurs from peroxisomes, an organelle never before implicated in innate immunity. This work has allowed a new area of research to emerge, which will focus on defining the role of peroxisomes in antiviral immunity. Dr. Kagan trained with Craig Roy, receiving his Ph.D. in Microbial Pathogenesis from Yale University in 2003. He then performed postdoctoral training with Ruslan Medzhitov in the Immunobiology Department as the Yale University School of Medicine. He was the recipient of one of the first K99/R00 awards from the NIAID in 2006 and holds a Burroughs Wellcome Fund Investigators in the Pathogenesis of Infectious Disease Award.

Peter Vasili Kharchenko, Ph.D.

2012 Ellison Medical Foundation New Scholars Program in Aging

Epigenetic Maintenance of repetitive elements in aging cells

Peter received a PhD in Biophysics at Harvard University, studying gene regulation and metabolic networks under the advisement of George Church. He then completed a four-year postdoctoral fellowship in computational biology and genomics in the laboratory of Peter Park.
http://pklab.med.harvard.edu/people.html

Joseph John Loparo, Ph.D.

2011 Smith Family Award for Excellence in Biomedical Research

Exploring the Molecular Mechanisms of Translesion DNA Synthesis through Single-Molecule Microscopy

Joseph Loparo joined the Department of Biological Chemistry and Molecular Pharmacology as an Assistant Professor in July 2010. His laboratory develops and applies novel single-molecule approaches to elucidate the molecular mechanisms by which cells replicate and maintain their genetic information. Joe obtained his Ph.D. in chemistry at the Massachusetts Institute of Technology where he worked in the laboratory of Andrei Tokmakoff. While there he developed ultrafast infrared analogs of multidimensional NMR to study the molecular dynamics of water's hydrogen bonding network. These experiments provided some of the first direct observations of water's fastest intermolecular motions. As a Jane Coffin Childs postdoctoral fellow at Harvard Medical School in the laboratory of Antoine van Oijen he sought to apply his expertise in optics and spectroscopy to study the dynamics of the replisome the multiprotein machine that carries out DNA replication. Joe is the recipient of a number of early career awards including an NSF CAREER award, a Smith Family Foundation Excellence in Biomedicine award, a Stewart Trust Fellows award and a Junior Faculty Award from the Armenise-Harvard Foundation.

David Tsai Ting, M.D.

2012 Burroughs Wellcome Career Award for Medical Scientists

Characterization of non-coding RNAs in pancreatic adenocarcinoma

Dr. David Ting is currently a gastrointestinal medical oncologist at the Massachusetts General Hospital (MGH) Cancer Center and clinical instructor in

medicine at Harvard Medical School. After receiving his B.S. in chemical engineering and biology from the Massachusetts Institute of Technology, he completed his medical degree at Harvard Medical School with *magna cum laude* honors. He then went on to complete his residency in internal medicine at MGH and medical oncology fellowship in the combined Dana Farber Cancer Institute and MGH Cancer Center program. He has named the Douglass Scholar for Translational Research and has received independent funding from the American Association for Cancer Research, the Dana-Farber/Harvard Cancer Center K12 Career Development Award, and the Warshaw Institute for Pancreatic Cancer Research. His post-doctoral research in the laboratories of Drs. Daniel Haber and Shyamala Maheswaran at the MGH Cancer Center has focused on characterizing pancreatic circulating tumor cells using next generation RNA sequencing. He is currently focusing his research on understanding the role of non-coding satellite RNAs in pancreatic cancer.

Hao Zhu, M.D.

2012 Burroughs Wellcome Career Award for Medical Scientists

Investigating the Lin28/let-7 pathway in mouse models of liver cancer and regeneration

Dr. Zhu grew up in North Carolina and earned a Bachelor of Science degree in biology from Duke University, followed by an M.D. degree from Harvard Medical School and MIT. After completing his M.D. training, he underwent training in internal medicine at University of California, San Francisco and Medical Oncology at the Dana-Farber Cancer Institute. From 2008 to 2012, Dr. Zhu performed postdoctoral research at Boston Children's Hospital, exploring connections between microRNAs, metabolism and regeneration in mouse models. In 2012, he joined the faculty of UT Southwestern. He is also an attending physician at Parkland Memorial Hospital.
http://profiles.utsouthwestern.edu/profile/134601/hao-zhu.html

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